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Adrian Lungu

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ADRIAN LUNGU

Appeal 2009-010185
Application 09/839,803
Technology Center 1700

Decided: December 22, 2009

Before CATHERINE Q. TIMM, BEVERLY A. FRANKLIN, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 3-19, and 31-33. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

BACKGROUND

The invention relates to a photopolymerizable element that may be used as a flexographic (i.e., relief) printing plate (Spec. 1:6-11; 2:26-30).

Claim 1 is illustrative:

1. A photopolymerizable element for use as a flexographic printing plate comprising:

(a) a support;

(b) a photopolymerizable elastomeric layer on the support, comprising a binder, at least one monomer, a photoinitiator, an onium salt and a leuco dye, wherein the onium salt is present in greater reactive amount than the leuco dye and is selected from the group consisting of phosphonium salts, selenonium salts, triarylselenonium salts, iodonium salts, diaryliodonium salts, sulfonium salts, triarylsulphonium salts, dialkylphenacysulphonium salts, triarylsulphoxonium salts, aryloxydiarylsulphoxonium salts, dialkylphenacysulphoxonium salts, and combinations thereof.

The Examiner relies upon the following prior art reference in the rejection of the appealed claims:

Araki
(as translated)

JP 59-21136

Nov. 29, 1984

The Examiner has rejected all the claims under 35 U.S.C. § 103(a) as being unpatentable over Araki.

Appellant presents arguments concerning the rejected claims as a group (Br. 2-5). Appellant does not advance an argument that is reasonably specific to any particular claim on appeal¹. Thus, in accordance with 37 C.F.R. § 41.37(c)(1)(vii), we select claim 1 as the representative claim on which our discussion will focus.

¹ Appellant merely pointing out what independent claim 33 recites is not a separate argument in support of patentability (Br. 5).

The Examiner finds that Araki suggests the claimed photopolymerizable element, but acknowledges that Araki does not explicitly describe that the onium salt is present in a greater reactive amount than the leuco dye. Nonetheless, the Examiner finds that the ranges taught in Araki for the amount of reducing dye (i.e., leuco dye) and the onium salt render the claimed content relationship obvious, and accordingly concludes that:

Given the ranges, one of ordinary skill in the art would have been motivated to choose any amount within each range, particularly the endpoints, thus the dye could have been employed in an amount of 0.001 parts by weight and the onium salt in an amount 2 parts by weight, thus employed in an reactive amount greater than that of the dye.

(Ans. 4).

ISSUE

Has Appellant shown reversible error in the Examiner's conclusion that Araki would have suggested using the onium salt in a "greater reactive amount than the leuco dye" as claimed?

We answer this question in the negative.

FINDINGS OF FACT (FF)

Findings of fact throughout this opinion are supported by a preponderance of the evidence.

Appellant admits that the use of a leuco dye to produce colored images in the exposed regions of a photopolymer are known (Spec. 2, ll. 34-38).

The Examiner correctly found that Araki describes a photopolymerizable material, that may be used as a relief printing plate,

comprising the claimed components including a leuco dye (e.g., crystal violet lactone), and onium salt (Araki, *e.g.*, p. 2, para. 5; last para. of p. 3; last para. of p. 5; top of p. 6); except that Araki does not explicitly describe an elastomeric binder (Ans. 3, 4).

Appellant does not dispute the Examiner's determination that it would have been obvious to one of ordinary skill in the art to use an elastomeric binder (Ans. 3; *generally Br.*).

Araki describe that the "recommended proportion" of onium salt is 0.001-2 parts by weight, and the amount of reducing dye is 0.01-10 parts by weight, per 100 parts by weight of the binder.

Araki does not have an example wherein the amount of onium salt is greater than the amount of leuco dye.

One of ordinary skill in the art would have appreciated that the reducing agent (dye) and the onium salt may be used in any of the amounts described in Araki, with a reasonable expectation of obtaining a photopolymerizable material that may be used as a relief printing plate, wherein "the light-exposed part can be clearly distinguished from the light-unexposed part" (Araki p. 2, para. 2), and wherein the material "has good photosensitivity and excellent workability, and is also suitable for multiple exposure" (Araki p. 2, para. 4).

No Reply Brief was filed.

PRINCIPLES OF LAW

When claimed ranges overlap or lie inside ranges disclosed by the prior art for every component in a claim, a *prima facie* case of obviousness is established. *See In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003); *In re Geisler*, 116 F.3d 1465, 1469-70 (Fed. Cir. 1997). Indeed, the law is replete

with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. These cases have consistently held that the Appellant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990).

“[I]n a section 103 inquiry, ‘the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered.’” *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (quoting *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976).)

ANALYSIS

We understand Appellant’s position to be that Araki teaches away from the claimed relative amount of onium salt to leuco dye because, according to Appellant, the ranges given in Araki overall suggest more reducing dye than onium salt would be used (Br. 4). Appellant also points to Example 1 of Araki which uses 10 times more reducing dye than onium salt (*id.*). Appellant further contends that their Specification Examples demonstrate “the criticality of the onium salt being in greater reactive amount than the leuco dye” (Br. 4). Appellant contends that employing the onium salt in a greater reactive amount than the leuco dye is hindsight in view of the present invention (Br. 5). These contentions are not persuasive of reversible error for the following reasons.

A reference “teaches away” when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of the Appellant’s invention. *See In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994).

There is nothing in Araki that suggests that the use of the salt and the dye within the claimed relationship would have been undesirable. To the contrary, Araki explicitly describes that the dye may be used in the binder in an amount as little as 0.01 parts by weight, whereas the onium salt may be used in an amount as great as 2 parts by weight per 100 parts by weight of binder. There is no dispute that the artisan could select amounts within each of the described ranges of Araki such that an onium salt is present in an amount greater than the leuco dye (*see*, FF).

Based on the foregoing, it is reasonable to conclude that the use of a greater amount of an onium salt than a leuco dye as claimed would have been *prima facie* obvious from the teachings of Araki, with a reasonable expectation of obtaining a photopolymerizable element, that is useful as a relief printing plate, wherein the light exposed part can be clearly distinguished from the unexposed part by a color difference, and is also suitable for multiple exposure.² *See Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d at 807; *also, e.g., KSR Int'l Co. V. Teleflex Inc.*, 550 U.S. 398, 420-421 (one of ordinary skill in the art is “also a person of ordinary creativity, not an automaton”). The use of an onium salt in an amount as large as 2 parts per weight in combination with a leuco dye in an amount as little as 0.01 parts by weight appears to be no more than the predictable use of such components for their established functions. *KSR*, 550 U.S. at 417.

² Although independent claim 33 is not separately argued, we note that claim 33 does not require any relative amounts of the onium salt versus the leuco dye, and encompasses an intermediate product as well as a final product.

Appellant's contention that the rejection is based on hindsight is also not persuasive of reversible error, since Appellant has failed to direct us to any portion of the Examiner's rejection that relies on knowledge that was outside the level of ordinary skill at the time the claimed invention was made and/or includes knowledge gleaned only from the Appellant's disclosure. *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971).

To the extent that Appellant relies upon the examples in their Specification to demonstrate the “criticality of the onium salt being present in a greater reactive amount than the leuco dye” (Br. 4), the burden rests with Appellant to establish that the results are unexpected compared to the closest prior art, and that they are commensurate in scope with the claimed subject matter. *See, e.g., In re Peterson*, 315 F.3d 1325, 1330-1331 (Fed. Cir. 2003); *In re Kulling*, 897 F. 2d 1147, 1149 (Fed. Cir. 1990). Appellant has not met this burden. For example only, the Specification Example 1 discussed by Appellant in the Brief relies upon uses twice as much onium salt as leuco dye (Spec. 23-24, Example 1; also Br. 4), while claim 1 plainly encompass using only a trace amount more onium salt than leuco dye. The only other inventive example in Appellant's Specification also uses twice as much onium salt than leuco dye (Spec. 24-25, Example 2). Hence, it can hardly be said that the exemplified inventive examples described in the Specification establish results that would be expected to be obtained across the entire breadth of the claimed composition.

CONCLUSION

On balance, the evidence, including the prior art of record and the Appellant's objective evidence of criticality, does not weigh in favor of a

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determination that the Examiner reversibly erred in rejecting the claims on appeal under § 103.

Accordingly, we sustain the Examiner's § 103 rejection of claims 1-8 based on Araki.

ORDER

The Primary Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal maybe extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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